DEVELOPMENT OF A QUALITY ASSESSMENT METHOD FOR URBAN GREEN SPACES

- PHD THESIS -

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ABSTRACT

The first part (Chapter I - Introduction) of the thesis describes the local and international context in which this research is developed and the importance of a qualitative assessment method for urban green spaces within this frame. In the urban environment, in addition to establishing the value of each studied area, the quality assessment has a direct impact on developing suitable management plans, on reducing the pressure over the budgets of local administrations, on maintaining the quality of the green areas and, last but not least, on providing a safe and comfortable use of space.

My motivation for choosing to research this topic is related to the ratification of the European Landscape Convention (2001) in Romania through Law no. 451/2002, which involves the development or the implementation of appropriate tools for analysing the landscapes and their components in order to set the base for establishing policies for landscape protection, management and planning. Another factor that highlights the importance of this type of research is the major incoherencies and inconsistencies that exist at present in the setup of suitable development strategies for urban green spaces, difficulties that arise from Law 24/2007 itself, which should generate and govern such actions.

I explain below the necessity for the elaboration of an urban green cadastre methodology, a methodology that, in the local context, should have a possible participatory dimension. This need for a suitable methodology is determined on the one hand by the current inability of the local authorities to carry out such an endeavour (detailed within this paper) and on the other hand by the major social reactions to the factual situation that are emerging lately.

Chapter II - The state of knowledge regarding the topic, after a terminological explanation, approaches from a theoretical and analytical perspective at national and international level the current trends in developing green cadastres, the methods used at international level and the importance of the Geographic Information Systems in applying these methods. A particular attention is paid in this context for the approaches used for analysing and evaluating the

arborescent vegetation within the urban environment. Current inventory types for urban vegetation as well as the methods and the equipment used in this process are overviewed.. At the same time a number of qualitative indicators are clearly defined, such as “historical value”, “aesthetic value”, “horticultural value” and “ecological value”. These indicators represent an essential aspect of the analysis of the tree vegetation in the light of the directives of the European Landscape Convention.

Hereinafter I proceed to analyse the international practice regarding the public participation within the urban planning process in general and in developing green spaces in particular. From this point of view I also examine the specific tools used for organizing public participation in the formal consultation processes as well as the characteristic phenomena of informal participation.

The personal contributions are structured in four main chapters, the first of which launches a series of hypotheses related on one side to the social role played by the green spaces within the life and the structure of the urban environment and, on the other side, to the arborescent vegetation embedded by those spaces and to the role played by it in defining their quality.

In the same chapter I propose several specific methods of determining the criteria for green spaces analysis: documenting the urban context; processing and synthesizing acquired data in relation with the research objectives; written and drawn documentation (mapping) of the elements and the activities observed on field; photographic documentation of activities, spaces and other observed elements; behavioural mapping of users interaction with the vegetation of the studied green spaces; description, qualification and classification of the observed actions and elements. In order to verify these methods, three in situ applications are proposed, the results of which are presented in detail within Chapter V.

Another series of proposed working methods analyses how the arborescent vegetation is embedded in the green spaces. The analysis methods are integrated within the assessment grid described in detail in the methodological chapter and field tested on two sites. The test results are detailed in Chapter VI of this thesis.

The tree vegetation assessment grid is divided into several sections. The first one aims to collect data that enables identification of the specimens and allows their classification into age groups. The next section looks at the collection of data regarding the physical characteristics of the evaluated vegetation. The third section includes information on the trees’ current status, while the fourth one establishes the value of each individual according to several criteria. The grid includes an integrative section that offers the possibility of ranking the vegetation from a qualitative point of view. This assessment tool also contains two descriptive sections. The first one gives information regarding the problems observed on field (defects, injuries, etc.), and the second one integrates considerations on recommended steps for future maintenance programs.

Both methodologies developed in this thesis require the use of basic equipment which represents an essential aspect given their orientation toward the participatory dimension.

Chapter IV - Green space: concept definition and analysis criteria setting - proposes a terminological clarification of the use of concepts such as “green space”, “planted public spaces”, “attached planted spaces”, “planted structures”, “vegetal accessories” or “successional spaces”.

Also in this chapter I propose some criteria for analysing green spaces, defined for the purpose of this thesis as independent urban structures, accessible for the public, where vegetation (usually trees) developed naturally and / or planted by remains predominant, that provide facilities and equipment for a wide range of activities for leisure, formal and / or informal recreation, rest, play, sport etc.. There are various types of green space users and they can be differentiated by age, social affiliation, gender, interests, physical capacities / disability etc. These analysis criteria look at issues related to accessibility, usage, composition of the vegetal frame and interaction with the vegetal elements.

Chapter V describes three in situ applications of the green spaces analysis criteria that were implemented in Bucharest (Izvor Park) and Berlin (Mauer Park and Görlitzer Park). The evaluation of the two German sites was made possible through the project no. POSDRU/159/1.5/S/132765 under the frame of European Social Found, Human Resources Development Operational Programme 2007-2013; Priority Axis 1 "Education and training in support of growth and development of a knowledge based society".

For a better understanding of the sites, this chapter includes documentation regarding the history and evolution both for the analysed green spaces as well as for the general-urban context in which they were created and they operate today.

The evaluation of the three spaces is presented in detail with the support of a rich photographic material and a series of analytical schemes. Within these analyses the thesis uses descriptive phrases suggested on one hand by specific landscape features and on the other hand by their usage, perception and naming by the local community. At the end of the chapter I present a comparative synthesis of the three field studies. Thus, a series of important conclusions emerge with regard to the development of green spaces, the usage patterns and the need to create local and specific maintenance and management plans. The information presented in this section mainly validates one of the criteria used in selecting the sites for the in situ applications.

From the point of view of their accessibility to the public, in principle, all three assessed parks show qualities that make them open to any person wishing to use them. Regarding their attribute as a space accessible for any user, the impediments I identified generally relate to construction materials or design issues. Regarding the coverage area of these parks it is obvious

that they are positioned within the urban context and connected to the local transport infrastructure so that their service area can expand at the city level.

Regarding the public usage of the three parks, I have observed primarily a a distinction in terms of users' age. While Mauer and Izvor parks seem to be favoured by all age groups, Görlitzer Park evidently hosts a population with a much younger structure. Regarding the differences in usage patterns determined by time intervals (depending on the time of day or week) distinctions emerge only in the way certain areas or equipment are used in each park. It should be noted that the greater usage diversity and intensity that can be observed in the case of the German parks can be explained by the very high permissiveness of the local administration that generally encourages the free use of the green spaces.

The overlap of the physical structure with specific equipment and the manner in which the users interact with them lead to the creation of a spatial decoupage specific for each site. For the purpose of an overview, the resulting areas can be divided into two categories: defined areas and undefined areas. The defined areas are represented by spaces that encompass specific equipment that essentially determines how they are used by visitors. Undefined areas are in fact design elements of the park that received or attracted one or more specific usages from the visitors.

Following the completion of the field analysis based on the evaluation grid proposed in this thesis, an overview regarding the current factual situation of each of the three studied parks.

Thus, for Izvor Park we can conclude that the current situation reveals a space that encompasses a series of "islands" of activities, most often limited by constructive elements. Some facilities have similar roles or atmospheres (2 playgrounds, 2 enclosed fields for dogs, 2 sport fields) and they are not designed in relation with the vegetal elements. The character of the vegetal profile is generating a limited range of sceneries.

Mauer Park has a dynamic conformation. The variety of types of spaces and ambiences provided by this park is reflected in the activities that it attracts and encourages to perform here. Periodically, it undertakes a greater level of pressure from users compared to the other two spaces analysed.

Görlitzer Park represents a green crucible in the middle of a densely built neighbourhood. This park also offers a wide range of spaces and atmospheres, while maintaining at the same time a more rustic character than that of Mauer Park.

The last chapter of the thesis describes the field studies carried out over the two years dedicated for this research. Vegetation analysis detailing presents the results obtained by applying the assessment grid developed for urban tree vegetation. This section presents the investigations made on two sites with highly different characteristics that allow testing the assessment grid in socio-spatial contexts that require distinct readings. The first site analysed is an area of the

Văcăreşti Park (now known as Kids' World Park and perceived often as an extension of the Tineretului Park), with a total surface of about 3500 square meters and the second is a segment of the tree alignment accompanying Aviatorilor Boulevard in Bucharest that is positioned between Charles de Gaulle Square and Aviators Statue area, with an approximate length of 600 meters.

Applying the assessment grid led to the conclusions that are presented together with a number of considerations aiming to recalibrate the assessment grid, considerations described in detail for each criterion.

The first conclusion of this thesis highlights the discrepancy between the vision of the Romanian legislation that is based on a quantitative approach devoid of social meaning, and the views expressed through other European urban laws and local regulations from major European capitals. Another conclusion drawn from this study is the need for a less restrictive approach of the green spaces in terms of their planning and their rigging. Another aspect that emerges from this thesis is related to the maintenance process dedicated to green spaces in general and tree vegetation in particular. Thus, it is clear that green spaces, in the context of their differentiated use, require the development of more detailed maintenance plans for the short and medium term.

I also highlight the need of refining and adapting the assessment methodology regarding the analysis of the urban tree vegetation in order to make it more easily understandable and accessible for citizens, since the assessment grid developed within this thesis is still highly technical.

The recommendations are mainly related to further research that can be carried out on this topic, to the need for a methodological developments on morphological reading of urban green spaces (boundaries analysis, dichotomous classifications such as: built space / open space, permeable surface, surface semi-permeable and impermeable surface, natural / anthropic etc.).